



MAGAZINE

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A Better Drug For Epilepsy

By Samuel Ellingworth (Pharmaceuticals Division)

How does a big company like I.C.I. set about the discovery of a new drug? What specialists are involved? What are the steps in the chain of research and trial? Here an attempt has been made to answer these difficult questions in an article telling the story of the discovery of 'Mysoline,' now the leading drug for the control of epilepsy.

IN 1952 a new drug called 'Mysoline' was introduced to the world by the Pharmaceuticals Division of I.C.I. after four years of patient research and trial. This drug has since brought great benefits to thousands of victims of the disease known as epilepsy.

The full importance to mankind of such a discovery can be realised when it is remembered that there are 100,000 epileptics in Britain alone, many of whom never receive a proper education and are debarred from industrial and social activities. To every epileptic who makes himself known, the British Epilepsy Association at 136 George Street, London, W.1, supplies a card on which the directions are as follows:

If I should have an epileptic fit, please loosen my collar, put something soft under my head, and leave a clear space around me. Do not lift me up. Do not give me anything to drink. Do not restrict my movements unless I am hurting myself. I usually recover consciousness in minutes. If I do, you need not call a doctor, nor send me to hospital or call the police. I should like to go home to

For many years the standard drug for the suppression of epileptic convulsions has been the well-known phenobarbitone; but in some cases it is ineffective, and in others it is successful only in doses which make the patient continually dull or drowsy, so preventing a normal life. Other drugs introduced from time to time have had the same or other undesirable side effects. The elimination of such drawbacks was in this case the aim of the Pharmaceuticals Division research workers.

Such an objective is typical of research to find new

chemical substances to remedy disease: powerful biological action is desired in one particular direction, with as little as possible in others. These requirements are exacting, and it is not often that a really first-class drug is discovered.

Research of this kind is essentially teamwork, with organic chemists, biochemists, experimental biologists, pharmacists and clinicians all playing their part. It was teamwork of this sort that resulted in the discovery of 'Mysoline.'

Like most new synthetic drugs, 'Mysoline' was conceived in the chemical laboratory. The chemist, in deciding what substances to make for trial, must necessarily think in terms of chemical structure. But unfortunately our knowledge of the biological effects of chemical compounds is still vague and deficient; the chemist can seldom forecast the biological behaviour of a new substance. What he usually does is to vary the chemical constitution of some compound known to exhibit a desired biological action—perhaps in only slight degree. In this way he tries to increase its effectiveness or perhaps to eliminate some undesirable characteristic.

Phenobarbitone, already mentioned as the most widely used anti-epileptic drug, is a derivative of barbituric acid. Earlier evidence had suggested that if substances of this type were made less acidic their hypnotic effect would be diminished. But it was not known whether this could be done without reducing anticonvulsant action. Experiments were carried out, and it was confirmed that reduction in the acidity of these substances was in fact a useful approach to the problem.

Some 120 compounds were synthesised (during about a year) before the desired combination of properties was realised. Even then efforts were not relaxed, and over 400 more substances were prepared to make reasonably certain that the best possible compound had been chosen.

New Tests Devised

All these compounds had, of course, to be examined by the biologists, and the establishment of suitable methods of testing was a major research effort on its own account.

In studying a disease such as epilepsy the use of laboratory animals is inevitable, as life is an essential factor in the brain disorder to be controlled. Electrical or chemical stimuli can produce a seizure in a laboratory animal—a rat, for example—just as they do in man. If the animal is given an anticonvulsant drug before the stimulus is applied it is protected from the effects for a period depending on the activity of the drug and the dose administered. The I.C.I. biologists found that this technique worked satisfactorily with existing anti-epileptic drugs, and it was elaborated into a reliable quantitative test. This formed the foundation of the entire research and made possible the selection of "8827," as 'Mysoline' was then known, for further experiment.

The Preliminary Hurdles

General hypnotic effect can be measured in terms of the dose required to produce a definite period of sleep in an animal, and with 'Mysoline' it was clear that this action was weak, as desired; also, there were no signs of general toxic effects. 'Mysoline' had thus cleared the preliminary hurdles, but much remained to be done before the drug could be tried in man.

Before a new compound can be given to patients the pharmacologist must carry out extensive experiments with laboratory animals to ensure that none of the normal body functions, for example respiration, heart action and circulation, is disturbed. If, as in the case of 'Mysoline,' the drug may have to be taken over a long period of time, prolonged toxicity experiments must be done to find out if there is damage to any organ or tissue when an animal is given the substance at regular intervals for weeks or even months.

Experiments with laboratory animals may give valuable information in other respects. They enable us to find out all we can about the likely behaviour of a new drug in the human body; the biochemist often seeks to answer such questions as how the drug is



Dr. H. C. Carrington (left) and Dr. J. Yule Bogue, the discoverers of 'Mysoline', at work in their laboratory, where they are studying charts used in the evaluation of the drug

distributed in the tissues, fluids and organs of the body, how the body finally gets rid of it, or whether it is changed by the body, which can sometimes bring about some astonishing chemical transformations. To do this he has to be able to estimate minute quantities of the drug or its derivatives in the complex mixtures of organic matter which constitute the substance of the body.

Sometimes a drug which has looked promising in the early stages fails in these more rigorous tests; but after experiments involving the preparation and examination of some 2000 tissue specimens from treated animals 'Mysoline' came through with a clean bill, and so became a candidate for trial in man.*

A Clean Bill

The pharmacist now comes into the picture; his job is to present the drug in a form suitable for the patient. 'Mysoline' is usually made into tablets to be taken by mouth; but more elaborate formulations are sometimes necessary, and this again may mean considerable research.

In spite of all precautions there is always the possibility that some undesirable reaction, though unobserved in laboratory animals, may occur in man.

Safety First

'Mysoline,' therefore, was at first given to man in very small doses, gradually increased to those expected, on the basis of animal tests, to have action against epileptic seizures. When a safe dosage scale had been established the drug was tried in a large epileptic colony, particularly on patients whose attacks were not adequately controlled by phenobarbitone or other drugs. At first 'Mysoline' was used only in partial replacement of the existing treatment; but, as experience was gained, patients were put on to 'Mysoline' alone, and in due course its value for the treatment of major, or grand mal, epilepsy was amply proved.

As usual in early clinical trials with any new drug, progress was closely watched by I.C.I. biological and medical staff, and with steady accumulation of favourable evidence from this and other sources it was felt that the new drug could be offered with confidence to the medical profession. 'Mysoline' was introduced in 1952 to the medical list of Imperial Chemical (Pharmaceuticals) Ltd.

It was important, of course, that 'Mysoline' should

make headway abroad as well as in Britain. But medical evidence obtained in one country is not always accepted by the doctors and health authorities of another. This was the case in U.S.A. and Canada, which offered large potential markets for 'Mysoline,' and more than twenty separate clinical trials, extending over a period of two years, were therefore arranged in those countries. These trials were left largely in the hands of overseas clinicians.

Widespread Trials

Additional experience of this kind is of great value, for it is only after really widespread use of a new drug that its full potentialities—and its drawbacks—can be properly appreciated, especially in a disorder like epilepsy, which exhibits different forms and degrees of severity.

Altogether 'Mysoline' research covered a period of over four years. This substantial effort has been rewarded by the steady progress of the new drug, both at home and overseas. Patients who did not respond to existing remedies have benefited by it; others who were persistently "dopey" under phenobarbitone have had their seizures controlled without appreciable impairment of their mental capacity; most of those who have received the drug have suffered little or no inconvenience of any kind.

But 'Mysoline,' like all other drugs, has its limitations. There are epileptics who are refractory to it, as to other available drugs; a few are sensitive to it and experience unpleasant symptoms; and it is not particularly effective against the minor, but still inconvenient, disturbances known as petit mal epilepsy. Therefore research goes on.

Heavy Cost of Research

The discovery of a successful drug involves much hard and patient work by many skilled investigators. The Pharmaceuticals Division of I.C.I. employs about seventy fully qualified chemical, pharmaceutical and biological research workers and spends nearly £500,000 per annum on research such as that which has given us 'Mysoline.'

Experience, both in this country and abroad, has shown that with an organisation of this size one major discovery every four or five years is, on an average, a reasonable expectation. Clearly this sort of research and development can be carried out on an effective scale only when backed by ample financial resources and a resolute faith on the part of all concerned.

*A full scientific account of the discovery of 'Mysoline' was given by Dr. J. Yule Bogue and Dr. H. C. Carrington in the *British Journal of Pharmacology and Chemotherapy*, June 1953

SALT MINE SHOTFIRER

WITH a year-round temperature of 54° and a humidity more like that of Bermuda than of Britain, Winsford's rock salt mine is a pleasant place to work in. There is fourteen feet of headroom to spare for a six-foot man, you can smoke, and you could almost eat your dinner off the clean but salty floor.

"Quiet, too," I remarked to my guide as we sauntered down one of the broad avenues of pinkish rock salt. At that moment a red light flashed in the roof ahead of us, a klaxon sounded in the distance, and a wave of sound and air hit us with shocking suddenness. It swept past us, and a moment later seemed to return from behind. The assault on our ear-drums went on for what seemed like a full minute. When I could hear again I was told "They're blasting."

The man responsible for all the noise I discovered to be Leslie Young, shotfirer of the day shift and a man of such importance that he is also deputy chargehand of the shift. Leslie has been a shotfirer for twenty-one years. He started as an apprentice in the days when blackpowder charges were fired with fuses made of straws filled with blackpowder; if the firer had sense, he took to his legs as soon as he had touched off the fuse.

Now it is all managed much more scientifically. A Nobel Division explosive called 'Abelite' is used, and it is detonated electrically from a safe distance. But blasting salt, as I was to learn, is not just a matter of pressing a switch. It calls for great skill and entails much responsibility.

The rock face is twenty feet high. The technique is first to cut into the face at floor level to a depth of five feet with an electric coal cutter, then make a similar cut six feet above. Leslie is now called in to blast out the rock between the cuts. His aim is to bring down the face in pieces that are large, but not unmanageably large. About a quarter of the mine's trade is sending lumps of rock salt weighing between 40 and 90 lb. apiece to Australia for use as cattle licks, and catering for this trade is something a shotfirer can only learn by experience.

The first step is to drill the face for charges all along its length. Leslie instructs the drillers where to put the holes and how deep they should be, taking into account the type of rock he is dealing with (it varies in denseness) and the degree of fragmentation he wants.

"The pieces from the top cut are bound to shatter as

they fall," he said, "so we want to get as much big stuff as possible out of this bottom cut." He marked out the places for the holes, using his outstretched arms to gauge the distance.

Later, when the drillers had finished, I came back to see Leslie place and fire some charges. Armed with a canister of explosive and a pouch of detonators, he set to work on the first four holes. Taking his first cartridge, he inserted a detonator in the end with a wire trailing from it. Carefully he inserted the cartridge in the hole, pushing it home with his long wooden stemming rod; another cartridge followed, and finally he tamped in a clay plug which left the wire leads trailing out of the hole.

When he had repeated this on each hole he wired the charges up in series, bringing the leads back to his exploder. Before going any further he told me about some of his legal responsibilities. "First of all," he said, "I'm legally responsible for seeing all the men are clear before I fire. After I've fired I've got to see that all the charges have gone before I allow the men to return to the face. If a shot fails to detonate, which very rarely happens, I've either got to try again to explode it, or if it has been blown out and is lying among the rock I've got to retrieve it, and the detonator—even if it means turning over twenty tons of rock to find them. And lastly I've got to make sure that the roof is safe before anyone else comes back to the face."

Leslie fulfilled the law by making sure there were no workers at the face and then we retired to a safe distance away, where his exploder stood ready. Before he connected up the wires he gave orders for the warning light to be flashed and the klaxon sounded.

"Right!" said Leslie. He connected his two wires and produced from his pocket the exploder key. A few seconds later we saw a big section of the face crumble and fall, to the accompaniment of the awe-inspiring noise I had heard earlier.

The dust had hardly subsided before Leslie was back at the face, pecking at the roof with a tool called a scabber. Cunningly prying away loose rock, he persisted until the roof rang true.

Before he leaves the mine at the end of the shift Leslie signs a book to certify how much explosive and how many detonators he has used; this statement, of course, must tally with what he has left. It is just one more legal responsibility in a very responsible job.

M.J.D.



Leslie Young

Information Notes

THE BRITISH DYESTUFFS INDUSTRY

By H. Jackson (Managing Director, Dyestuffs Division)

The British dyestuffs industry, of which the lion's share belongs to I.C.I., is today facing up successfully to highly competitive conditions abroad. This review of the situation by the managing director of Dyestuffs Division is reprinted from the Financial Times.

THE vital part played by the dyestuffs industry in our national economy and security was recognised as early as 1920, when on the promulgation of the Dyestuffs (Import Regulation) Acts 1920-34, providing protection for the industry, the Government stated:

It is the settled opinion of the Government that for national security it is essential that synthetic colour-making factories should be in existence and be maintained in operation with their staffs of chemists and other experts in this country, and that the equipment should be equal in extent to that of any other, possible hostile, nation.

Proof of the wisdom of this objective was evident during the last war, when all United Kingdom Services clothing, all civilian clothing, much ammunition, all camouflage, much of the medical supplies, rubber tyres, vehicle paints and many other essentials could not have been produced without the products of the dyestuffs industry. The dyestuffs industry produced the necessary goods and in sufficient quantity and quality to make us independent of outside supplies.

Today Britain can point to a dyestuffs industry whose capacity could be valued at some £25,000,000 in dyestuffs alone. This expansion in production has been accompanied by increased efficiency; in the home market, for example, dyestuffs prices have risen by only 29% during the last five years compared with a 48% rise in the prices of all materials used in the textile industry.

In addition to the part played by the British dyestuffs industry in the home market, the progress of the industry as a major exporter is perhaps even more striking. Since



1937 the British dyestuffs industry has more than doubled its share of the international trade in dyestuffs, and today its exports earn more than £1m. a month for the country. Using the peak pre-war year, 1937, as a base, the table below shows the progress of British dyestuffs exports in the post-war period compared with the total dyestuffs exports of all the major producing countries of the world—Germany, Switzerland, the United Kingdom, France, Italy, U.S.A. and Japan.

Year	£,000		Index Total	Index U.K.
	Total	U.K.		
1937	20,320	1,495	100	100
1947	42,619	7,712	210	516
1948	44,912	8,359	221	559
1949	45,599	9,686	224	648
1950	59,487	10,183	293	681
1951	76,028	10,565	374	707
1952	44,307	8,085	218	541
1953	57,062	9,115	281	610
1954*	34,039	5,572	335†	745†

* Jan.-June.

† Equated.

Competition in dyestuffs is severe throughout the world, the sale of over 2000 parent products in daily use requiring a highly specialised technical sales force, which is familiar not only with the products it sells, but also with the problems arising at every stage of production in the industries consuming the dyestuffs, e.g. the various branches of the textile industries, such as cotton, wool, viscose, acetate, silk, and of course the ever-increasing range of synthetic fibres such as nylon, 'Terylene,' etc.

The main dyestuffs importing countries of the world are situated in Europe, which absorbs 42% of the world's exports of dyestuffs, and in the Far East—mainly China and India—which absorbs a further 24% of total dyestuffs exports. Competition in these areas comes primarily from

German and Swiss sources, while in the rest of the western hemisphere the U.S. merges as the major competitor. The German dyestuffs industry, which emerged from the war with a vast productive capacity and plants less damaged than was thought possible, is now divided into a number of smaller successor companies of the pre-war I.G. Farben and exports some 40-45% of its production, almost half of the amount going to Europe and another third to the Far East. In pre-war days Germany exported about 60% of its dyestuffs production, which was then materially greater than her post-war output.

The Swiss companies have always manufactured primarily for export, because their small domestic market takes only about 5% of their total production. Some 60% of Swiss exports goes to the European countries and another 10-15% to the East and Far East.

The very large U.S. domestic market is the main outlet

for the products of American manufacturers, their exports being governed to a large extent by the activity of their home industries and by the availability of dollars to overseas purchasers.

The future of the British dyestuffs industry appears encouraging. Despite severe competition, satisfactory progress is being maintained and the dyestuffs market itself continues to increase with rising standards of living and increasing demand for coloured goods. Furthermore, the demand for better-quality, fast dyestuffs continues to expand more rapidly than would appear from a study of mere overall dyestuffs statistics, which of course cover a very wide variety of products. The British dyestuffs industry is well fitted by its inventiveness, extensive research and large capital investment to meet increased demands for these valuable products and to satisfy a consuming public at home and abroad which continually exacts higher standards.

FILM PLANS FOR 1955

By Gordon Begg (Central Publicity Department)

The film is now a recognised medium for explaining the company's activities both to ourselves and to other people. Half a dozen new projects are under way and are here reviewed by the I.C.I. Films Officer.

WE in the I.C.I. Film Unit are looking forward to a busy year in 1955. Throughout the country more and more people are turning to the sound film as an aid to teaching, selling, and generally communicating ideas; our company is no exception. Last year, in addition to four issues of the Company's film magazine *Panorama*, several films of a more specialised kind were made. These included two first aid teaching films made for the Medical Department of General Chemicals Division. These films were quickly and inexpensively made, and it is hoped to make several more this year. Nobel Division's Medical Department has provided a subject in *Human Kinetics in Handling Materials*. This is also a teaching film and will be used to augment the lectures of the Ardeer physiotherapist, Mr. Maxwell. Also in the medical field, but aimed at an audience outside the Company, is a colour film, *Hand Injuries*, for Pharmaceuticals Division, which will be completed in May. For Alkali Division a five-minute film, *How to open a Caustic Drum*, is to be made. This is a Technical Service aid.

Soon due to be finished is a film about the production of copper tube. This has been shot at Metals Division's Broughton Works—now closed—and at Kirkby Works. The fine buildings and spacious layout at Kirkby, based on the principles of work study, are strongly contrasted with older methods and premises at Broughton.

Then there are two films of the "record" type. One of these, which will tell the story of Plastics Division's Tech-

nical Service Department, will show that department's new building being constructed. The other, a combined Plastics-Metals Division production, will record on film the installation of the huge new system of drainage at Witton. The scheme will take several years to complete, and 1955 will only see the start of shooting.

Finally, two films concerned with man-made fibres, both to be in colour. The first is a ten-minute film directed at the sales staff of retail stores which sell 'Terylene' in its different forms. Most people like to buy goods from well-informed salesmen or saleswomen. This visual aid is to see that in respect of 'Terylene' they are well informed. The other film, as yet untitled, is a more ambitious project. Lasting thirty minutes, it will tell the story of man's efforts to make newer, better textile materials, and will include the rayons, nylon and other plastic materials as well as 'Ardil' and 'Terylene.'

Of course *Panorama* will continue to be made. Subjects for 1955 include I.C.I.'s fleet, salt production at Stoke, and an item connected with safety.

Whatever films are produced they must be distributed. The I.C.I. Film Library is ready for yet another busy year. Just now it is continuing to send out well over a thousand copies of I.C.I. films a month to audience groups of all kinds. The autumn-winter months, of course, bring the greatest demand, but even in the summer the number of loans rarely drops below 400 copies a month.

“ENDEAVOUR” AFTER FOURTEEN YEARS

By B. W. Galvin Wright (Publicity Controller)

Last September Dr. E. J. Holmyard, Endeavour's first editor, handed over the editorship to Dr. Trevor Williams, his then deputy. Here is a brief summary of the position of world-wide renown achieved by Endeavour since its beginning in 1942.

“ENDEAVOUR” has now entered on its fourteenth year of publication, and these years have seen it grow steadily in stature. Its circulation has increased considerably, from 25,000 in 1942 to 35,000 at the present time, and the size of each issue has been increased from 40 pages to 56; but its influence has much more than proportionately increased. It has established an enviable reputation for authoritativeness, and its circulation is, territorially speaking, much greater than it was a dozen years ago. It now circulates widely in the countries with which we were at war when *Endeavour* began publication, and, of more direct interest, its circulation at home has been greatly increased, so that it is now very well known in British scientific circles.

The reason for the very limited home circulation in the journal's early years was that paper was made available for it on the strict condition that 97½% of all copies printed were sent overseas. *Endeavour* was one of the only two new journals allowed to begin publication in wartime; only since this stringent condition was relaxed has it been possible to meet the needs of scientists here.

For a scientific journal pitched at the high level of *Endeavour* a distribution of 35,000 copies—spread among English, French, Spanish, German and Italian editions—is very considerable, but it is evident, bearing in mind the very large numbers of people now engaged in scientific work of one kind or another, that only a relatively small proportion of those who can read *Endeavour* with understanding and enjoyment could possibly have an individual copy. Distribution of the available copies to the best advantage is therefore of the utmost importance, and in fact the maintenance of effective mailing lists is one of the principal tasks of the *Endeavour* office.

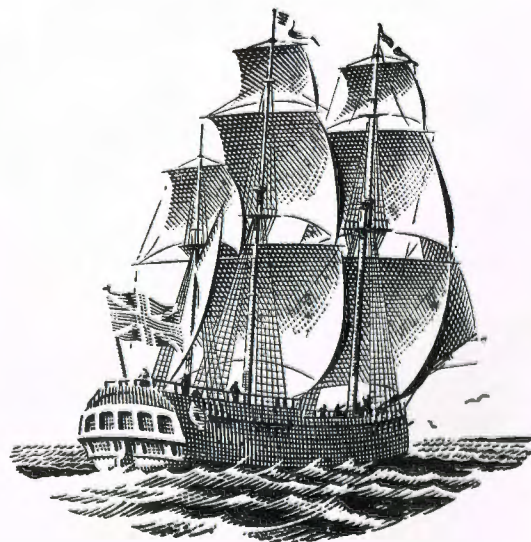
Generally speaking, individual copies go only to scientists of high standing and the journal has to be made available to others in other ways, principally through the libraries of universities, industrial and technical research organisations, and some senior schools. It is also available in many reading-rooms at home and

abroad, in college common-rooms, some military messes, and so on.

In compiling the mailing lists, and keeping them as effective as possible, the editors are fortunate in having been able to have the advice of many agencies. Among these are the British Council, the Central Office of Information and the Foreign Office. The advice of corresponding bodies in many foreign countries is also available, as well as that of many of the Company's own overseas offices. International reference works on the organisation of science also yield much useful information. To reconcile the sometimes conflicting recommendations of all these advisers it is necessary to centralise the drawing up of the final mailing lists in the London office of *Endeavour*.

The problem of effective distribution does not end, however, with the preparation for each country of mailing lists as effective as the number of copies available for distribution permits. Constant revision is necessary, both to eliminate addresses made ineffective by death, change of occupation and so on, and to meet the needs of the new generation of scientists rising to eminence and the building and extension of scientific establishments, both industrial and academic. To make allowance for these varying factors each recipient of *Endeavour* receives every year a questionnaire card asking him whether he wishes to go on receiving the journal and to notify any change of address or status. The response is gratifyingly high—of the order of at least 90%—but the balance is sufficient to provide a reserve for meeting new demands.

The high reputation which *Endeavour* now enjoys throughout the world naturally depends on the quality of the articles published in it, and thus, in the last analysis, upon its contributors. The latter are for the most part scientists distinguished for their work in this country or in the Commonwealth, although occasional contributions are invited from foreign countries. The quality and standing of the journal is a measure of the present high standard of British research, and in the scientific world it is therefore not merely a good ambassador for the Company but for the country as a whole.



POLAR EXPEDITION (continued from page 49)

account. Later at Danmarkshavn they told us that the musk ox's nature, like its flesh, resembles that of a sheep.

The onset of winter on the Greenland coast stimulates social intercourse on the part of its inhabitants. The frozen sea forms a splendid highway upon which a man's dogs will pull his light sledge as he goes hunting or visiting his neighbour perhaps a hundred miles off. By the end of October 1952 the ice was declared safe, and the sledging season was opened. In the company of some good Danes from Danmarkshavn Jim, Spike and I were to set off for the first 55 of the final 180 seagoing miles to the weasels. Though we had never before driven a dog team, the Danes gave Jim and me a sledge to ourselves adding only the injunction that we had best take a tent and food in case the dogs took the leading into their own heads.

That our sledge was to be the first off we knew to have been arranged for the amusement of the Danmarkshavners, who had assembled to bid us farewell. The loaded sledge was lashed to a bollard, and as quickly as possible nine doggy bundles of pent-up energy were attached to the sledge, each by an individual trace. Quickly we climbed aboard, severed the holding rope, and whoosh!—dogs and sledge with two men holding on like grim death careered down the short slope to the sea, at the edge of which was a four-foot wall of pressure ice. This the dogs agilely leaped, but with a sickening thud the sledge hit the ice wall, shied into the air and, jettisoning the men, landed upside down on the far side.

Shaken but undamaged, we looked back to find our erstwhile friends convulsed with laughter. In front, nine docile dogs sat on their haunches, smiling happily and wagging their tails. There was something insolent in their demeanour. We resolved to show them who was master. The sledge was righted and the orthodox command for “forward” was given. Kasan moved, but only to rub noses with Jeda. Then a crack of the thirty foot long sealhide whip all but removed my right eye. At this point the second sledge hurtled past, and in a flash our dogs were in hot pursuit. We were off!

For the first fifteen miles life was perfect. We trundled along at six miles an hour over the frozen surface of the 80 mile long Dove Bay. The setting was exquisite. In front, southwards, a midday sun hung 2° above the horizon, its slanting rays revealing the intricate details of the snow surface. Closer, nine bushy tails stood erect as the dogs trotted happily along. Frequently icebergs were passed. It is beside these grotesque blue giants that the polar bear makes his winter lair.

As the miles slipped by the others drew ahead. Up to now we had been wearing every stitch of clothing we could muster, for it was chilly sitting on a sledge in the open air at — 3° F. But as darkness fell and we found ourselves still 25 miles short of our destination we stripped off some of our clothes and took it in turns to run behind the sledge. The reduced weight helped the dogs, but for all that it was a very tired team that we put to bed that night. Lassie, our best puller, was too tired to eat her dried fish. The other teams, by dint of expert handling, made the trip in two hours less and arrived much fresher. As we sat in the warm trapper's hut downing hot coffee, we agreed we had enjoyed the day and would continue to drive the sledge ourselves.

The sun set for the winter two days before we reached

our weasels. Thereafter a steadily diminishing twilight illuminated our world for a further three weeks before complete darkness descended on the frozen earth.

It was 6th December before all parties had returned to base for the winter—that is, all but three men wintering in a small but cosy hut 8000 ft. up at the ice-cap centre. With its full complement of bodies the 50 ft. by 20 ft. living hut at base was pretty crowded.

At one end was the sleeping accommodation, consisting of six 4-man cubicles each with two double-tier beds. Every available wall space was occupied with shelves. There were cubicles whose precise and orderly tidiness proclaimed military occupants, and those whose haphazard agglomeration of clothes, cigarette tins, boots, books and tobacco ash spelt a more civilian, perhaps scientific, element. Thus men of all degrees of personal tidiness, tastes, dress, education and outlook dwelt together.

At the far end of the hut was situated the living room and beyond that the kitchen, where on the splendid solid fuel stove of up-to-date design we took it in turns to prepare food for our fellows. Three or four at a time would act as cooks. During this period the cooks would completely cut themselves off from the others, to whom any reference would be expressed in the term “them.” In so far as talents permitted—and in some cases there was exceptional talent—we ate normally off tinned and dried food, save for an occasional and very succulent musk ox.

The dark time was to be for all of us a period when we would do a hundred and one things that a busy life at home never left time for. They were never done. Always there was something else to do. Furthermore the inactivity, the heat of the hut and the good feeding gave many the curse of insomnia. Such people tended to stay up later and rise later, and at one period in midwinter we had quite a body of people, actually on night shift, making breakfast their dinner.

Our very comprehensive collection of long-playing records gave us endless enjoyment, though the favourites were inevitably overworked. It was through the gramophone, too, that we derived another great pleasure—Scottish country dancing, an activity guaranteed to send the temperature recorder off the scale and drive to the laboratory hut any would-be sleepers.

The laboratory hut lay next to the living hut and was joined to it by an unheated broad corridor. Within its 24 ft. by 16 ft. walls were crammed an office; benches for the geologists, seismologists, gravimetricist, meteorologist and glaciologist; and a radio room and generator room supplying our electric light. The unheated corridor acted as our cold storage room, and in there too, safe from the icy blast, all our puppies were born.

Dark-time fever, the alleged ogre of the long dark winter, never appeared. Our dark winter life, which lasted almost two months, was mitigated by an incredibly brilliant mid-winter moon that shone twenty-four hours a night for over a week. It was not until mid-April, when once again we had the midnight sun, that the expedition's work was fully resumed. By midsummer the thaw was in full swing and the QLL parties were driven back to base. Inland, in a region of eternal snow and perpetual frost, the routine work of scientific study and exploration of the ice-cap proceeded slowly.

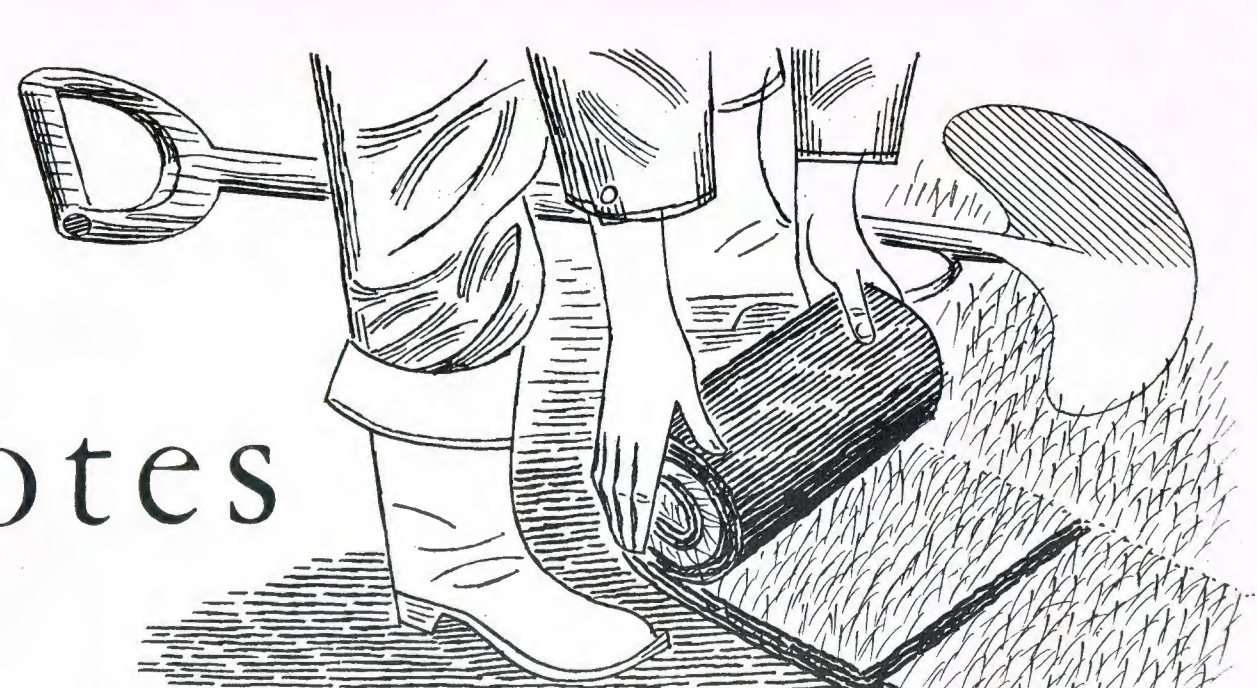
And that is another story.



Garden Notes

By Philip Harvey

Drawing by Raymond Tooby



IN my experience February is a tricky month for gardeners. Curiously enough, this is seldom commented on in gardening books, yet I am always relieved when 1st March arrives. February is, I believe, considered a bad month for the human species, flu being frequently in the offing.

I have often noticed that carnations, pinks, and sometimes roses will survive severe weather, including prolonged frosts, in late autumn or early winter, but during February they tend to die back or collapse for no accountable reason. If such plants last until March, then all is usually well. The explanation eludes me, but there is, I think, a moral. Unless you are prepared to take risks, avoid planting herbaceous perennials in winter and wait until the end of February or the beginning of March. Fruit trees, shrubs and roses can, however, be planted at any time during February.

Grass seed is now very expensive, and you may care to consider turfing as an alternative method for a new lawn or to fill up bare patches on an existing lawn. Turfing still works out dearer than seeding but has definite practical advantages. Seeding can only be undertaken in spring or early autumn, when there are plenty of other jobs to tackle, whereas turfing may be done from late autumn to the end of February, when normal gardening is usually at a standstill. **It is also quicker and, provided care is taken,**

almost foolproof. Children can play with impunity on a lawn made from turf two or three months later instead of waiting for an interminable time after seeding.

Turfing—or sodding, to use the groundsman's terminology—should be undertaken as early in the month as possible, especially on light, sandy land. If postponed there is always the possibility of drought in early spring, and watering newly laid turves is a tedious job. Make certain that you obtain turves that are reasonably weed-free. Some turf contractors advertise 'Verdone'-treated turf which starts your lawn on the right road. Your local newspaper, as well as the gardening journals, invariably carry advertisements offering turves delivered to your door. The price is usually about 50s. per 100 turves (1 square yard of turf cut 1½ in. thick weighs about 1 cwt., hence the cost of transport is a big item).

Prepare the ground as you would when sowing grass seed. On heavy land work in sharp sand, charcoal and peat. If you are faced with a stiff and apparently impermeable clay, lime may be incorporated to help break down the lumps into fine particles. Liming is rarely necessary for established lawns, as a slightly acid soil is really best for the finer grasses and lime encourages clover. Admittedly some gardeners do not appear to mind clover, but beginners should be warned that it spreads very rapidly and takes

rather longer to eradicate than most lawn weeds. The mower often slides over patches of this pernicious weed, especially if the grass is at all wet.

Light soils will be improved by adding farmyard manure, compost, peat, or even sewage sludge. A level surface is essential before turfing, but the tilth need not be so fine as for seeding.

Turves are generally 3 ft. long and 1 ft. wide, and cut as thinly as possible. Thin sods develop a better root system than thick ones, an ideal thickness being 1-1½ in. Turves are delivered rolled up and if left unopened in stacks will rapidly turn yellow. This can, of course, be largely (though not entirely) prevented by opening them out flat immediately on arrival.

The best plan is to insist on delivery not more than forty-eight hours before laying is contemplated. A dressing of bonemeal at about 2 oz. per square yard should be raked in prior to the actual turfing. Lay in a forward direction, standing on a plank to avoid marking the turf, and pack the turves together as tight as possible. Having finished laying, work in some sandy soil or compost and sand between the turves to help knit them together, and give a rolling the following day.

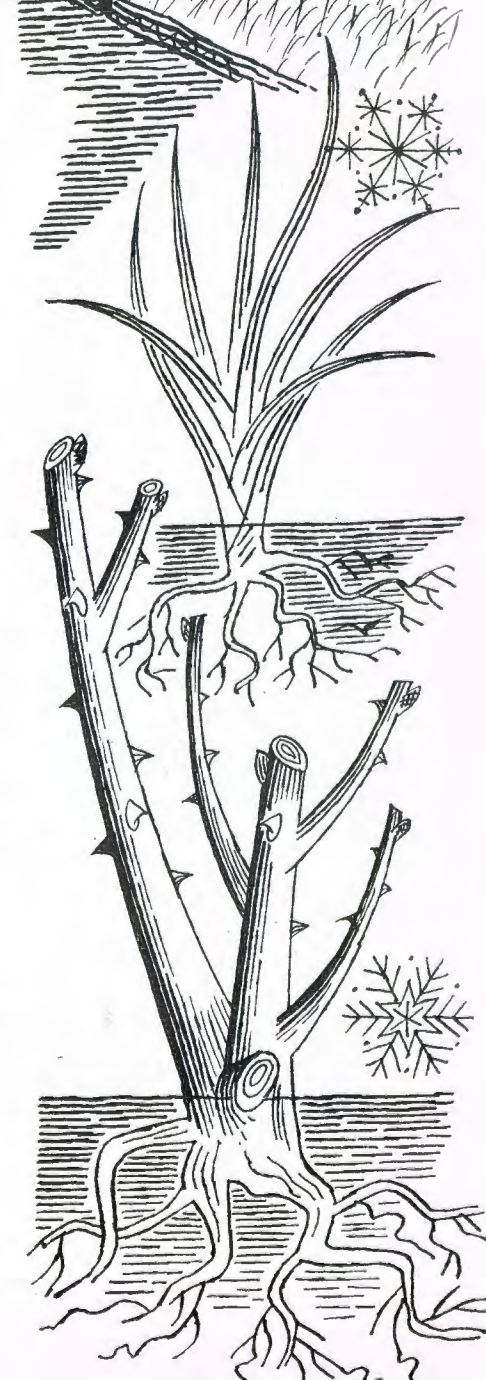
Frost often causes turves to lift, and if this happens replace carefully when the ground has thawed completely and roll again.

Were you worried last year by peach leaf curl? This disease is more common on outdoor peaches, whether fruiting peaches trained on walls, or varieties grown mainly for the beauty of their flowers like Clara Meyer and Russell's Red. It is a very easy trouble to identify, infected foliage being puckered and purplish red in colour. Symptoms appear as the leaves unfold, and the crop suffers in both quality and quantity.

Leaf curl is not difficult to master, provided you adopt preventive and not curative measures. Spray with lime-sulphur, Bordeaux mixture or a proprietary copper fungicide directly the buds *start* to swell. Lime-sulphur also assists in checking red spider.

All established hard and soft fruits will benefit from a top-dressing of any complete fertilizer. The exact proportions of nitrogen, phosphates and potash are probably unimportant in gardens, though gooseberries and redcurrants prefer a fertilizer with a high potash content. Application rates are sometimes a needless source of worry to beginners, as textbooks often issue solemn warnings against overgenerous dressings of fertilizers. In theory I suppose they are right, but if you remember that the feeding roots usually extend as far as the spread of the branches you cannot go far wrong.

My own view is that amateurs are often unnecessarily cautious. A mild overdose is rarely harmful.



tooby

Polar Expedition

By C. G. M. Slessor (Nobel Division)

Two years ago C. G. M. Slessor, who works in the Research Department at the 'Ardil' Factory near Dumfries, spent a winter on the northern shores of Greenland as a member of the largest British polar expedition in forty years. Here is his story of what it is like to live in the frozen north.

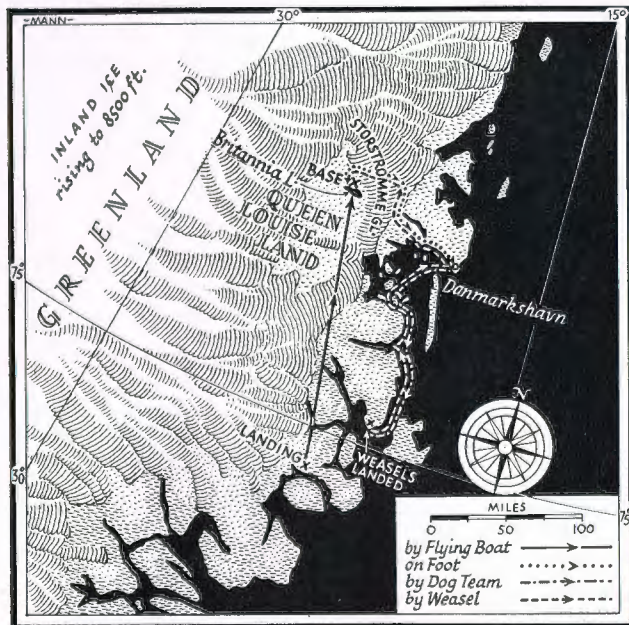
WHEN the sealer *Tottan* left her Deptford mooring on 8th July 1952 she carried with her the men and equipment of the largest British Polar expedition in forty years. The 25-man British North Greenland Expedition, as it was called, had embarked on a two-year programme of scientific investigation and exploration of the little-known Queen Louise Land area of north-east Greenland and of the ice-cap to its west.

QLL, as we termed it, provides a fairly easy means of access to the inland ice but is itself most difficult to reach, for the reason that it is cut off from the coastal land belt by two 20 mile wide glaciers which drain from the ice-caps to the north and south and unite before flowing into the sea. However, QLL does boast a fairly commodious lake (now called Britannia

Lake) which is ice-free in July and August and is suitable for flying-boat traffic.

The *Tottan* therefore deposited us in a convenient fjord in latitude 74° North on the east coast of Greenland and left it to the R.A.F. with their Sunderland flying boats to airlift ourselves and our 190 tons of equipment up to Britannia Lake in lat. 78° N. There, on a sandy flat on the north shore of the lake, we erected our prefab home, raised our radio masts, and settled in for a quiet year secure from any possible physical contact with the outside world. As we explored our new homeland and discovered its unbelievably rugged nature we saw that the degree of our security was considerable.

Negotiation of the 20-mile Storstromme glacier between us and the coast was going to be pretty tough except on foot. To some extent this hindered the work of the expedition, which could only be fully carried out provided that the scientists could reach their objectives without an expenditure of time and energy out of all proportion to the time available to them when they got there. To this end we had brought with us three dog teams and eight snow-going tractors called weasels, with sledges suitable to each.



LATE JULY. From a summer camp set up on the edge of the inland ice the glaciologist and his assistants keep a round-the-clock observation on temperature, wind and other factors in their study of the summer thaw.

Unfortunately the weasels were too big for the flying boats and remained 150 miles to the south at a point on the coast, from where, once the sea froze, they could be driven north on the sea ice and then, if the autumn snows smoothed out the rugosities of the Storstromme, driven over to QLL. But the full story of the expedition is a long story, too long to tell here. Many long journeys were made, and since our mode of living was as much a function of how we travelled as where we were, an impression of our life can be given by relating two such trips.

In the autumn four of us found ourselves obliged to walk to the 120 mile distant coastal Danish weather

station of Danmarkshavn, on the first stage of a trip to fetch the weasels. It was to be a journey in three stages, first over the Storstromme at its northern end, then across a 3000 ft. high plateau, and lastly a 40-mile walk along the north shore of Dove Bay. Very different terrains, and yet the routine of travelling would be very similar.

September 20th is quite typical, for instance. Within the grey tent pitched between the moraine and the glacier, Jim, a Royal Engineers Captain, is lighting two primuses. He is duty cook. Only his arms and face can be seen, for like a wise man he does his cooking from his bed of two down-filled sleeping



LATE OCTOBER IN DOVE BAY. *A driver's view of his dogs as he speeds over the smooth sea ice. To the right is a large iceberg.*

bags. The temperature is 20° F., so you can hardly blame him.

Presently he has the porridge on the boil. As the ambrosial odour penetrates the senses of even the deepest and warmest of the sleepers, they stir. A pint mug each, sprinkled with dried milk and sugar, is the ration; and the meal, always a silent one, is concluded with tea and a biscuit bearing twice its volume of butter. Someone produces the two-ounce chocolate ration. Then regretfully the bodies emerge from their cosy bags.

Twenty minutes later, dressed, shivering and with rucksacks packed, we fold the tent, which is strapped on to B.K.'s load. B.K., our 6½-foot naval navigation and electronics expert, gloomily eyes the encrusted ice on the tent which adds further pounds to his load. He is not insensible to the fact that our loads are lighter by the weight of food consumed last night. After a brief parley, an adjustment is made.

Our way lies across the 25 mile wide north Stromme. Shouldering our 65 lb. packs, we set off. To our feet are strapped small plates with four prongs protruding, called instep crampons, which give us a sure-footed grip on the polished ice hummocks which form the major part of the glacier surface. The pitted surface is here and there broken by a frozen glacier river bed, which serves to break the monotony of the interminable irrhythmical plodding. Presently low cloud sweeps over us, bringing light snow, utterly obliterating the horizon. It is impossible to judge distance or direction. The four men separate to the limit of visibility, and the leading man is guided by compass directions from the rear man.

By now we are beautifully warm and have stripped to a shirt and windproof jacket and trousers. After four hours we have a break for what Spike, our army mechanic and humorist, expansively describes as



EARLY OCTOBER. *A noon sun shines through the coastal fog as we man-pack along the shores of Dove Bay.*

lunch, but which consists of only two biscuits and butter, some dried apricots and any chocolate not already eaten. After eight hours (it is a seven-day week!) we pitch camp on a flat stretch of ice. Because of the lack of snow we must support the tent by cutting notches in the ice, on to which we cement the tent guys with body fluids.

The evening meal is the big occasion and is always the same—a succulent goulash of pemmican, butter, potato powder, and water whose quality is reflected in the shining surfaces of the empty mugs as we lie back replete. Sometimes it is possible to have a second course of porridge and dried apples, cooked to a crunchy consistency.

And thus the routine continues, even when on the plateau a few days later B.K. cracked his ankle and our progress was restricted by his painful hobble. Eventually we ran short of fuel for our stoves and ate snow to quench our thirst, but when we reached the

coast we came across some clumps of six inch high arctic willow, tinder dry, and soon a billy was on the boil for an enormous cup of tea.

B.K. could travel no further, so we left him with Spike at a disused trapper's hut wherein the kind Danes had deposited some emergency stores and fuel. Jim and I continued our way along the coast, at that time fog-bound, staying en route in a trapper's refuge the size of a small garden shed. It boasted a bench and a coal stove, and outside we found the remains of a coal heap. In no time the interior was like a furnace, and stripped to the waist Jim tickled my fancy with polar bear stories till every scuffle of the wind outside had me on tenterhooks.

However, the polar bear was an unlikely, if possible, eventuality. Our immediate problem in travel was the ubiquitous herds of musk ox, who by their ferocious aspect never failed to command in me a deep respect, and we made many a wide detour on their

(Continued on page 43)

Coaching Days

By Vincent Watson (Billingham Division)

The coaching era was the heyday of our British inns. New hostels were built at the staging points, and many of the most famous inns of today owe their existence to those times.

With drawing by the author

THE golden era of the stage coach came to an end just over a hundred years ago. Brightly coloured coaches and handsome horses with glistening harness helped to make coaching the most romantic form of travel ever devised. Yet the golden era was short-lived—forty years at most, from 1800 to 1840—and at first sight the only obvious reminders left to us are the pictures of stage coaches which adorn Christmas cards. Fortunately, on closer investigation, many more relics of coaching days can be found. In fact, the study of the coaching era is both a feasible and entertaining undertaking.

Coaching was naturally dependent on the existence of passable roads, so that an obvious starting point for a coaching collection is the acquisition of old maps showing roads. Here one is surprised to find—and relieved too, since they are expensive—that the late sixteenth and early seventeenth century maps such as those of Saxton and Speed did not show any roads. This was probably due to the state of the roads at the time. The roads were indeed little more than rough tracks; stones and soil were frequently taken away by country folk; dead animals and fallen trees lay across the way, and it was nobody's responsibility to remove them. In wet weather the road surface became a morass, and it was not unknown for travellers to be drowned in potholes.

The earliest English road maps were made by John Ogilby in 1675, each map depicting the route between two important towns.

After Ogilby's time, roads were normally shown on county maps. When we reach the great coaching era

there is a large range of maps available at the cost of a few shillings each, these maps showing clearly the roads used by stage and mail coaches. A very convenient series of county maps from the collector's point of view is that made by Wallis in about 1810. One confusing peculiarity of maps of this type is that north often lies at the side instead of the top of the map.

The development of the stage coach itself is best followed by a study of early prints. The first coach introduced into England was that given to Queen Elizabeth by a Dutchman in 1565. Soon a number of wealthy people had acquired coaches for themselves.

The first stage coach service probably began in England in about 1640. An advertisement in 1658 shows that a coach running between London and York took four days, and the fare was £2; a London-Exeter coach running in the same year took the same time, and the fare was identical. So bad, however, was travel by these early coaches that a pamphleteer, John Cresset, urged that they should be abolished, saying that travellers . . .

are often brought to their inns by torchlight, when it is too late to sit up to get a supper, and next morning they are forced into the coaches so early that they can get no breakfast. Is it for a man's health to travel with tired jades, to be laid fast in foul ways, and forced to walk up to the knees in mire?

The speed of travel improved but little during the next hundred years. An old coaching bill for the York-London stage coach shows that in 1706 the journey was still taking four days. Fifty years later a double improvement occurred. Firstly, coaches with

springs were introduced, so that we find that a coaching bill of 1760 referred to a "Flying Machine on Steel Springs" which ran from Leeds to London in three days. Secondly, there was a marked improvement in roads throughout the country.

The improvement in the state of the roads was due to the formation of turnpike trusts. These trusts brought Acts before Parliament for the repair and making of roads, and between 1763 and 1774 no fewer than four hundred and fifty-two Acts were



Painted by James Pollard, engraved by Theodore Fielding and reproduced by courtesy of the Parker Gallery, London
At the "Elephant and Castle" on the Brighton Road, London, in the early 1800's

passed. The turnpike (or main) roads were equipped with turnpike gates and toll houses, so that money for the upkeep of the roads could be collected from travellers. The toll gate charges varied, but were generally 2d. for a horse, 3d. for a two-wheeled vehicle, and 6d. for a four-wheeler, while sheep and cattle were charged by the score or dozen. The tolls were unpopular and riots were not uncommon. At Selby the town crier incited the local inhabitants to attack the local toll gates with axes and with fire. Most toll gates were abolished in the 1870's, but a few are still in use today.

By the early part of the nineteenth century the roads were very good, thanks largely to Macadam. Now appeared the great coaches whose names are full of romance: from London ran the "Tantivy" to Birmingham, the "Telegraph" to Manchester, the "Highflyer" to Edinburgh and the "Rockingham" to Leeds. Some idea of the extent of the coaching services can be gained from the fact that in 1838—the busiest year of the coaching era—one hundred and thirty coaches ran into or out of Leeds every weekday.

Reference has already been made to coaching bills and notices; these make an interesting collection. Early bills are very rare indeed, and photographs have to suffice; but from the period 1800 to 1840 many of these bills and notices have survived. The wording of most of these notices is admirable. Thus, of the Leeds "Rockingham" we read:

Notwithstanding the uncommon Expedition of this Coach, it is allowed to be the most agreeable and complete Public Conveyance on the North Road, being unequalled in Accommodation by any other.

Of the Carlisle "Express," the coach used by Nicholas Nickleby and Wackford Squeers in travelling from London to Dotheboys Hall, it is said:

Passengers detained on the road by business, or pleasure, have the peculiar advantage of their seats being secured in the next coach.

In their great days stage coaches, which were usually drawn by four horses, were travelling at an average speed of about ten miles an hour, so that they were performing the journey from Edinburgh to London in about forty hours. This rapid travel was only made possible by a change of horses at frequent intervals—usually every ten to fifteen miles, or even less. To calculate the number of horses required to operate a service it was reckoned that one

horse had to be available for each mile of the route. In consequence, for the mail coach service between London and Manchester, a distance of 185 miles, 185 horses were available for use.

As a result of the necessity of changing horses and to meet the needs of travellers, inns specially connected with coaching grew up along the roads. Many of these inns are still in use and have recovered their importance as a result of motor traffic. Others have long since been converted into private houses or shops, and tracing their history is fascinating but difficult.

Many of the great coaching inns have interesting historical and fictional associations. In Stony Stratford stand two coaching inns, the Cock and the Bull, which owing to the rumours originating there during the wars of the eighteenth century gave rise to the phrase "a cock and bull story." Of fictional associations it may be mentioned that Mr. Pickwick had his famous nocturnal adventure at the Great White Horse at Ipswich, now a Trust House, while Nicholas Nickleby and Wackford Squeers left the London-Carlisle "Express" at the George at Greta Bridge.

In 1784 the Royal Mail was first carried by coach. The mail coach services differed in some ways from the ordinary stage coach services. The mail coaches were faster, often reaching fifteen miles an hour, and in consequence they had to change horses more frequently. They carried a guard who was a Post Office employee and who was armed with a cutlass, two pistols and a blunderbuss; the indiscriminate use of the blunderbuss made the guard liable to a fine of £5. The guard also carried a locked timepiece, which was essential, since standard time was not in use; for example, Bristol time was twenty minutes behind London time. The railways, however, brought the coaching era to its end. The great roads became overgrown with weeds, and the coaches were broken up or turned into hen-houses. The inns closed or lingered on like The Dodo, a fictitious inn described by Dickens.

It provides me with a trackless desert of sitting room, with a chair for every day in the year, a table for every month. . . . The Dodo has seen better days, and possesses interminable stables at the back—silent, grass-grown, broken-windowed, horseless.

The coaching era was indeed dead.



The "Bull and Mouth" and "Albion," Leeds

I.C.I. NEWS

TWO NEW I.C.I. DIRECTORS

Mr. Clifford Paine, chairman of Dyestuffs Division, and Mr. William Donald Scott, a managing director of Billingham Division, have been appointed to the Board of I.C.I. as executive directors.

Mr. Paine has been chairman of Dyestuffs Division since November 1952. A native of Yorkshire, he was educated at London University and started his career in the dyestuffs industry in 1917, when he joined the research department of Levinstein Ltd. He specialised in the dyestuffs and intermediates fields, in which he made a number of inventions.

In 1937 he was seconded to I.C.I. (New York), later returning to Blackley, where he was appointed leader of the Exploratory Research Section of Dyestuffs Division. He became Assistant Research Manager of the Division in 1942, Research Manager in 1943, Research Director in 1946 and a joint managing director in 1951.



Mr. C. Paine



Mr. W. D. Scott

Mrs. Alexander Fleck

We deeply regret to announce the death on 4th January, after a long illness, of Isobel Mitchell Fleck, wife of Dr. Alexander Fleck, Chairman of I.C.I.

Mr. Paine is chairman of the Wilmslow Guild, Cheshire, which is the largest adult education centre in Britain. Among his pastimes he numbers watercolour painting, hill-walking, golf and photography.

Mr. Scott, who is 51, was educated at Taunton School (Somerset), Oxford and Yale. At Oxford he took his degree in chemistry and was elected the Henry P. David-

son Scholar to Yale University, where he gained his B.Sc. For some years he worked with the Hercules Powder Co. Ltd. in America and Holland. In July 1935 he joined I.C.I. in the Explosives Division sales department and six years later was transferred to the Dyestuffs Division as market development officer, later becoming Home Sales Manager for the Division.

In 1951 he went to Billingham Division, being appointed Joint Managing Director (Commercial) in the following year.

Mr. Scott is married, with three children. His pastimes include an interest in English furniture, silver, and pictures of the period 1675-1800.

NEW YEAR HONOURS

In the New Year Honours List Dr. Maurice Walter Goldblatt, director of the I.C.I. Industrial Hygiene Research Laboratories, and Mr. H. E. Jackson, lately chairman of Metals Division, both received the C.B.E.

Dr. Goldblatt joined I.C.I. in 1934 as Dyestuffs Division Medical Officer; he had previously been lecturer in



Dr. M. W. Goldblatt

Mr. H. E. Jackson

physiology at St. Thomas's Hospital. He was appointed director of the Industrial Hygiene Research Laboratories in 1947 and is a past president of the Association of Industrial Medical Officers.

Mr. Jackson, who retired from I.C.I. in 1953, was awarded his C.B.E. as a past president of the British Non-ferrous Metals Federation.

PUBLIC APPOINTMENTS

Dr. Alexander Fleck, Chairman of I.C.I., has been appointed a member of the Council which is sponsoring the Duke of Edinburgh's study conference on the human problems of industrial communities within the Commonwealth and Empire. The conference, with the Duke as president, is to meet at Oxford in July. Dr. Fleck is chairman of the conference members' committee.

Sir Ewart Smith, Technical Director of I.C.I., has succeeded Mr. Tom Williamson, general secretary of the National Union of General and Municipal Workers, as chairman of the British Productivity Council.

Mr. A. E. J. Gawler, deputy Overseas Controller of I.C.I., will be a member of the British trade mission which is to visit Egypt, the Sudan and Ethiopia this year.

HEAD OFFICE

Retirement of Mr. J. W. Page

Those who have worked with Mr. J. W. Page of Central Labour Department have somehow never regarded him as an "elder statesman," so fresh and buoyant has been

his outlook and so youthful and vigorous his appearance. And yet it was in April 1915 that Jack Page, as he is known throughout I.C.I., joined the office staff of the Faversham gunpowder factory of Curtis's and Harvey, which in time came under the I.C.I. umbrella.

It is not surprising to anyone who has experienced Jack Page's great zeal for his job and his great fund of human understanding that when the Central Labour Department was formed in 1928 under the leadership of Mr. (now Sir Richard) Lloyd-Roberts and Mr. John Hay that the latter, with whom Mr. Page had long been a colleague in Technical Department, Ardeer, should invite him to join the new labour relations team.

As head of the industrial section he built up a reputation throughout the Company as a negotiator who, while scrupulously fair and always courteous and kindly, could be depended upon to see that the Company's best interests were safeguarded. He brought to his task an unrivalled knowledge of the Company's agreements in regard to labour matters and negotiating procedure. As a main national officer of a big trade union said: "We have all crossed swords with Mr. Page round the table in negotiations, but we have always been able to say honestly and sincerely at the end of the day we have parted the best of friends."

On the lighter side of life, Jack was never a "dull boy." A brilliant pianist, an accomplished 'cellist, and in his own modest way a composer, he was also well known as a singer in his spare time on the professional concert platform in the years between the wars, broadcasting on several occasions from the famous 2LO London station and from Glasgow.

He had a brief theatrical career before 1915 but decided that the somewhat precarious life did not match up with his shrewd business sense. But his leaning that way is still seen on occasions, when, in telling a story or in argument, he becomes so absorbed that he lives the part; or when putting on a show of magic he displays the technique of the polished performer which rightly earned him a Silver Star of the Inner Magic Circle, of which he is an Associate.

He served in the Royal Horse Artillery in the first world war, a period in his life which besides having its serious side yielded a crop of immensely funny real-life anecdotes to his inimitable sense of humour—a sense of humour which is always kindly and has made him many friends.

His genial personality and kindly counsel will be missed, but his friends are pleased that he and his wife will now have more time to devote to their many interests, which include motoring and foreign travel.



Mr. J. W. Page

BILLINGHAM DIVISION

Chairman Retires

Dr. G. I. Higson, who has been chairman of the Division since September 1951, retired at the beginning of the month. He is succeeded by Mr. W. J. V. Ward, who has been Division Technical Director since 1949 and has worked at Billingham ever since leaving Cambridge in 1926.



Dr. G. I. Higson

Dr. Higson went to Billingham in 1922 as a research chemist after gaining his D.Sc. at the University of Liverpool. He became successively assistant research manager, deputy process manager, and works manager, and in 1931 was promoted to delegate director. He became technical director in 1936 and Division joint managing director in 1948.

During the war he was seconded to Canadian Industries Ltd. for two years. Since the war he has been a member of government missions to Pakistan, East Africa and Egypt.

He is a keen photographer and a Fellow of the Royal Photographic Society. For many years he was president of the Synthonia Recreation Club photographic section and vice-president of the gardening section.

Courage Rewarded

An Ammonia Works maintenance fitter whose courage and presence of mind prevented serious damage when a fire broke out recently in the No. 4 Chemical Store at Billingham has been presented with a Meritorious Service Award of £5.

He is Mr. Lorns Stevenson, of Synthesis Section maintenance, and he received the award from Mr. C. S. Tanner, Ammonia Works Engineer, at a presentation in the Synthesis Section messroom.

Meritorious service awards were given, said Mr. Tanner, to employees who by their prompt or courageous action prevented or mitigated accidents to personnel or plant when such action was of an exceptional nature and outside the employee's normal duty.

"And," he continued, "the action for which Mr. Stevenson has been given this award was certainly courageous, carried out promptly, and of an exceptional nature."

"He was working on the Ammonia Works stock tanks when he saw smoke coming from No. 4 Chemical Store and had the presence of mind to investigate. He found that a fire had started in the store, and after arranging for the fire brigade to be called he rushed back to the



Mr. Stevenson receives his award from Mr. Tanner

building, drew all the electrical fuses there and started to fight the fire with a hand extinguisher.

"He continued to fight the blaze with an extinguisher until the brigade arrived, and he then stayed on to help the firemen man a hose.

"It was a particularly good piece of work," continued Mr. Tanner, "and there is no doubt that if he had not acted so promptly and efficiently the fire would have reached very serious proportions. As it was it was put out with only a comparatively small amount of damage having been caused."

DYESTUFFS DIVISION

Beautiful Hands

Miss Marie Howley, a secretary from Hexagon House, was one of fourteen girls with beautiful hands who met at the Locarno, Streatham, to take part in a "Hands of the



Miss Marie Howley

Year" contest. The fourteen had been picked from hundreds of girls in heats and local finals all over England and Northern Ireland, and Miss Howley represented the Salford district of Manchester.

She did not win the contest, but thought herself lucky to have reached the grand finals and to have been included in the visit to London (with dinner at a night club) that was the privilege of all the finalists. The judges at the contest—Avis Scott, Josephine Douglas, Kate Don and Hugh Sinclair—were not swayed by the personal appearance of the contestants, who were hidden but for their hands.

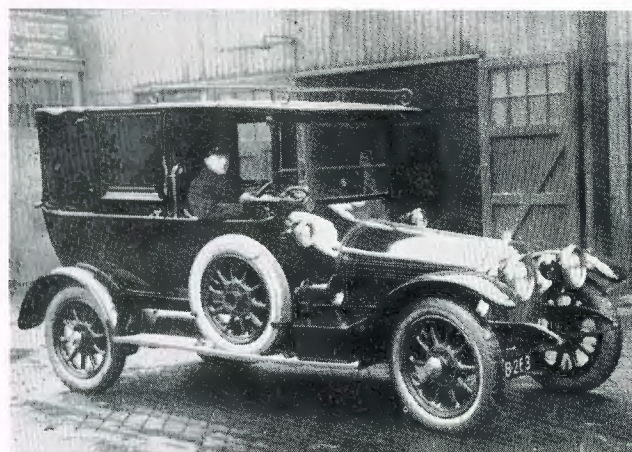
Miss Howley's spare-time interest is languages, and her ambition—perhaps inspired by her job in Overseas Sales Department—is to travel and meet people.

GENERAL CHEMICALS DIVISION

Veteran Driver Retires

When Fred Jordan retired on the 19th November 1954 he became the first Gaskell-Marsh employee, and one of the first in I.C.I., to qualify for the retirement gift of which details had been announced a few hours earlier on that day at the Central Council meeting.

Following in the footsteps of his two grandfathers, who worked at the Lancashire Metal Works and Muspratts Works at Flint respectively, and his father, who was a



This Star car, with Fred Jordan at the wheel, was United Alkali's only car in 1915

burnerman at Gaskell-Deacon Works—all these firms became part of the United Alkali Company—young Fred started work at Gaskell-Deacon. After three weeks a suspicious foreman asked to see his birth certificate, which he had previously omitted to produce, and, seeing that he was only 13 years and 4 months, told him to return when he was 14.

In 1915 Fred Jordan, after a spell on process work, joined the garage, where he soon took over the Star car, which, together with two Star lorries, was the complete

motorised transport fleet in those days. His duties consisted mainly of driving directors and managers of the Company, but on occasions he acted as the Mayor's chauffeur, it being an unofficial duty of the United Alkali Company to provide transport for the first citizen of Widnes when it was required. He remained in the garage, apart from war service, until 1935, when he went to Marsh Works as goods clerk—a job he held until his retirement.

LEATHERCLOTH DIVISION

New Managing Director

Mr. George Haddock has been appointed Managing Director of the Division.

Mr. Haddock has had over 40 years' service with the Company and its predecessors. He joined Nobels Explosives Co. in 1913, and it was after four years' service with the 9th Highland Light Infantry that he first became connected with the leathercloth interests of Nobel Industries. On this side of the Company's business he has held the appointments of chief accountant, secretary, and personnel and finance director.

His family and his hobbies of golf, bridge and gardening absorb Mr. Haddock's non-working hours.



Mr. G. Haddock

METALS DIVISION

Elected Association Chairman

Dr. Maurice Cook, D.Sc., joint managing director of the Division, has been elected chairman of the British Non-ferrous Metals Research Association.

Dr. Cook has served on a very wide variety of councils and committees concerned with non-ferrous metallurgy and is senior vice-president and president-elect of the Institute of Metals and a past president of the Institution of Metallurgists.

He joined Kynoch Ltd. in 1926 and was appointed to the Metals Division board in 1942.



Dr. M. Cook

NOBEL DIVISION

Croix de Guerre for Captain

On 30th November Captain R. A. B. Hardwick, master of the Nobel steamer *Lady Dorothy*, was remembering events which happened more than ten years ago. Captain Hardwick had an appointment at the French Consulate in Glasgow, where in a short ceremony the Consul, Mlle. M. Lehé, presented to him the Croix de Guerre with Silver Star.

On D Day Captain Hardwick, then Lieutenant-Commander Hardwick, R.N.R., was off the beaches of Arromanches helping the landings on the shores of Normandy. What he did on that day, and on succeeding days, earned for him this recognition. On the first day 800 tons of materials were landed on the beach; three months later 15,000 tons of war stores were being handled.

After Mlle. Lehé had presented the medal to Captain Hardwick members of the consulate staff toasted his health and the Consul reiterated the good wishes of her country, herself and her staff.

The work at Arromanches was not the only adventure in Captain Hardwick's life. It was not long after he went to sea as a cadet in 1915 that the first befell him. The ship in which he sailed was sunk off the coast of North Africa,



Capt. Hardwick receives the Croix de Guerre from the French Consul in Glasgow

and for six weeks, as a boy among men, he had to live as best he could in the Sahara Desert before a rescue party came.

Some time later Captain Hardwick joined the Hudson Bay Company and sailed on several of their ships. He was aboard the s.s. *Nascopie* when the *Bayeskimo* sank in Ungava Bay. The *Nascopie* heard the distress signals, turned, and steamed towards the reported position of this disaster, forging through ice and storm, until finally the smoke signals of the survivors were seen rising from an ice-floe, on which a most hazardous night had been spent.

Captain Hardwick left the Hudson Bay Company (he gained his master's ticket in 1929), and thereafter until the outbreak of the second world war he was sailing on the

great sea lanes of world trade. After demobilisation he joined I.C.I. Nobel Division and has sailed as an officer in all the Company's ships. He was appointed captain of the *Lady Dorothy* some 3½ months ago.

PAINTS DIVISION

Archaeologists form Society

Three members of the Division's headquarters staff at Slough have joined with local enthusiasts to form the Middle Thames Historical and Archaeological Society. They are Mr. G. J. Simmans (Home Sales Administration Dept.), Mr. A. G. Pollard (Division Technical Relations Dept.) and Mr. R. F. Denington (Process and Method Study Section).

The area in which they are interested is bounded by a line joining Uxbridge, Wokingham, Henley and Wendover. The society may be appointed official recorder for the area, and a careful study and indexing of local records have been started by a team of enthusiasts.

Outside activities include visits to the Roman villa at High Wycombe (shortly to be demolished), a study of the earthworks in Burnham Beeches, about which little is at present known, an examination of the Taplow collection of Saxon finds at the British Museum, together with a wide range of items of historical interest to cater for the tastes of those members more interested in architecture and old houses.

Field work will be concentrated at the Ministry of Works site at Old Windsor, where a Saxon town of considerable importance is under excavation.

A group of watchers has been formed to keep a look-out for unreported finds, which are often destroyed through ignorance. It is believed that portions of a rare Bronze Age urn, found in the Langley area, have been lost in this way, although efforts to recover these pieces continue.



Mr. G. J. Simmans

PLASTICS DIVISION

'Fluon' makes for Faster Ski-ing

Faster, safer ski-ing may soon be possible for all winter sports enthusiasts, thanks to polytetrafluoroethylene, or P.T.F.E., made by the Division under the name 'Fluon.'

The plastic's unique property of refusing to stick to anything is already turned to great advantage in such places as bakeries and paper mills. The idea of employing 'Fluon' on skis occurred to Dr. F. P. Bowden, head of the Research Laboratory for the Chemistry and Physics of Surfaces at Cambridge University. Last March Dr. Bowden, a keen winter sportsman, made several pairs of skis

covered with 'Fluon' and tried them out in the Austrian Alps.

Timed straight-run descents under controlled conditions showed striking results. Comparing the P.T.F.E. skis with ones covered with the conventional Norwegian wax over a gently sloping 700 ft. track, Dr. Bowden found that the P.T.F.E. coverings reduced descent times by as much as 35%. The P.T.F.E. skis were also easier to ski on, because they gave a low uniform friction even on patchy snow.

British Olympic skiers may use 'Fluon'-covered skis in the next Olympic Games as a result of Dr. Bowden's discovery.

Pension Fund Trustee

Mr. E. N. Wilkinson, Britannia Mill, Darwen, has been appointed a trustee of the Workers' Pension Fund.

Mr. Wilkinson has many qualifications for the job. He has been district secretary of the local branch of the Independent Order of Oddfellows Friendly Society, and is still a trustee of his Lodge. He is secretary of a Provincial District of Lodges, and he has served on the committee of management for four years.

In addition he has been for four years Parish Clerk to the Eccles Hill Parish Council, and he is a member of the Yate and Pickup Bank Council. He is also honorary secretary for the Blackburn area of the Lancashire Association of Parish Councils.

SALT DIVISION

Retirement of Mr. Storey

Mr. W. R. Storey, a managing director of Salt Division since 1951, retired on 31st December after more than 34 years' service.



Mr. W. R. Storey

Mr. Storey joined the army in 1914 and was a casualty at Loos in 1915. He was seconded to the Ministry of Munitions and sent to the Brunner Mond agency T.N.T. purification factory at Gadbrook in 1916. During his service at Gadbrook he was decorated by King George V with the M.B.E. for his gallantry in dealing with an outbreak of fire.

In 1919 he went up to Cambridge to complete his engineering studies before joining the engineering staff of Brunner, Mond & Co. in 1920. He was transferred to the works management staff in 1926 as Assistant Works Manager and Engineer at the new Wallerscote Works. He became Works Manager in 1928 and held the appoint-

ment until 1939, when he became Winnington Works Manager.

During the thirteen years he was at Wallerscote Mr. Storey not only played a great part in overcoming the inevitable starting-up difficulties but also was responsible for the works during a period of considerable change and expansion. He remained manager of Winnington Works until his transfer to Salt Division in 1948 as Production Director.

During the period he was with Salt Division many changes were made; the new vacuum plant at Stoke Works came into operation and modern mechanised methods were introduced to the rock salt mine.

Mr. Storey is a member of the Institution of Mechanical Engineers and was an associate member of the Institution of Civil Engineers for twenty years.

Always an accomplished sportsman, his athletic interests included rugby and association football, golf, ski-ing and swimming. He was the first captain of the Winnington Park rugby first XV.

Mr. Storey goes into retirement with the best wishes of all his colleagues for his health and happiness at his new home in Petersfield, Hampshire.

Thirty Years' Service to Farmers

Mr. Robert Yearsley, Division Supply Manager, was paid sincere compliments recently when he relinquished his post as secretary of the Winsford Branch of the National Farmers Union. He had held the post for thirty years, working entirely in his spare time; his place has been taken by a full-time salaried official who will act as secretary to the Winsford, Northwich and Middlewich branches of the N.F.U.



Mr. R. Yearsley

suffer great loss by Mr. Yearsley's departure from the office he had held so long. As a token of appreciation of his loyal service Mr. Yearsley was presented with a 17 in. TV set by Mr. Richard Bancroft, a past chairman of the Winsford branch.

In the course of this work Mr. Yearsley has acquired a wide and practical knowledge of the problems and organisation of British agriculture. Nor is it surprising that his attention outside his work should have turned in that direction, for he comes of farming stock. He is the son of the late Robert Yearsley, a well-known Cheshire farmer, who died a few years ago in his 88th year, and four of his brothers are farmers working their own farms.

'TERYLENE' COUNCIL

New Appointments

Mr. G. F. Whitby has been appointed a joint managing director of the 'Terylene' Council, and Mr. A. R. Milne a member of the Council.

Mr. Whitby joined Billingham Division in 1934 and worked on the design, construction and operation of chemical and refinery plants. During the war he was seconded to the Ministry of Supply, returning to I.C.I. in 1945 as assistant to the Technical Director. In January



Mr. G. F. Whitby

Mr. A. R. Milne

1948 he became Deputy Chief Engineer of Wilton Works, a post he relinquished three years later on his appointment as engineering member of the 'Terylene' Council.

Mr. Milne, who was Deputy Manager of the Southern Sales Region, joined I.C.I. in 1930 at Wilton in the Ammunition Sales Department. Later he joined Plastics Division as a technical representative, and in 1947 he became manager of the Division's Home Sales Control. In 1949 he was appointed manager of the Southern Region Plastics Department, and in 1953 Deputy Manager of Northern Region.

The New Headquarters

The move of the 'Terylene' Council from Welwyn to its new headquarters in Harrogate is now almost complete. Altogether some 250 members of the staff are now established in the newly built administrative and technical service buildings there, and they will be joined by the Research Department in the early summer of this year.

The headquarters covers an area of about 25 acres, although the whole site is considerably larger. It comprises a total area of 160 acres, a part of which is land and garden surrounding the picturesque stone-built mansion of Crimple House, eventually to be used as a hostel and staff club.

Care has been taken to ensure that the introduction of an administrative headquarters does not mar the surroundings of this particular part of Harrogate—a spa resort: all the buildings have been placed well back from the road, and bricks designed to harmonise with the district were brought from some distance away.



The administrative building of the new 'Terylene' headquarters at Harrogate

The site is by no means complete; work is still proceeding on the Research Department building, and the foundations of an extension to the administrative block are soon to be laid. It is estimated that in 1956, when all the buildings and extensions are occupied, approximately 600 people will be employed in the Harrogate headquarters.

BRITISH VISQUEEN LTD.

New Look for Bacon

The familiar sight of sides of bacon wrapped in cotton netting may soon vanish from the grocers' shops of Britain. British Visqueen Ltd., jointly owned by I.C.I. and the Visking Corporation of America, has collaborated with a north-country firm of provision importers in developing a new polythene wrapping for bacon.

The film is perforated to prevent condensation inside the pack. It prevents loss of weight and deterioration of quality during distribution, and is expected amply to fulfil



Sides of bacon wrapped in the new perforated polythene film

the requirements of any hygiene legislation brought in by the Ministry of Food.

Several Smithfield meat firms have now expressed an interest in the new form of wrapping.

A.E. & C.I.

Presentation in East Africa

Mr. D. R. Scorer, Managing Director of A.E. & C.I. (East Africa) Ltd., has left Nairobi to take up a new position in Johannesburg.

The photograph below shows Mr. D. J. Perry, on behalf of the staff of A.E. & C.I. (East Africa), presenting to Mr. Scorer an oil painting showing Mount Longonot, an extinct volcano in the Rift Valley on the way from



Mr. D. R. Scorer (right) with the painting he received from Mr. D. J. Perry (left) on behalf of the staff in East Africa

Nairobi to Nakuru. The painting is the work of a local artist, McLellan Sim, and on the back of it all the staff placed their autographs.

Mr. W. H. Dyson (formerly of Umbogintwini Factory) has taken over the position vacated by Mr. Scorer.

I.C.I. (CHILE)

President Retires

Mr. L. I. Crawford, the first president of I.C.I. (Chile), has retired. He is succeeded by Mr. José Carvalho, formerly the general manager.

During Mr. Crawford's twenty-six years in Chile his versatility and resourcefulness were tested by many crises. The worst was certainly the world slump of the early thirties, in which Chile's export trade fell to one-eighth of the normal levels. Foreign exchange became unobtainable at that time, but after an astute manoeuvre involving exports of dried fruit to neighbouring countries—a far cry from selling chemicals—the exchange was obtained to pay the home organisation for its goods. Another incident occurred at about this time when foreign remittances were only obtainable against payment in gold

coins. Considerable sums were involved and it was the practice to deposit the day's takings in a bank vault. One day Mr. Crawford and the late Mr. R. J. Simpson were taking the gold for deposit in the Banco de Chile in the very heart of Santiago when a faulty lock gave way and a glittering cascade of gold coins showered on to the pavement of the crowded street. There was no need to call for volunteers to help pick up the stray coins!

Mr. Crawford has been a valued member of the Council of the British Chamber of Commerce for many years, and his commercial capacity and intimate knowledge of local conditions have been of great assistance to this body. His service to I.C.I. and Anglo-Chilean trade in general culminated in the recent purchase, on behalf of I.C.I. Central Purchasing Department, of several million pounds' worth of copper for the Metals Division.

His connections with Chile have not been solely commercial. An acute observer of local customs and an understanding student of the country's history, he has written four novels about Chile which were published in the early 1930's. These were: *All Temptations*, *In the Admiral's Wake*, *On the Anvil* and *The Spirit Walks*, and they paint a vivid picture of this (to English eyes) remote republic.

Mr. Crawford served with the South Lancashire Regiment during the first world war and attained the rank of Captain. During his residence in Chile he gave much time to the welfare of ex-servicemen in that country and was for several years a member of the local trust fund committee which is associated with the British Legion and gives a helping hand to ex-servicemen and their relatives in cases of necessity. The present healthy financial standing of the trust fund is largely due to his foresight and good judgment.

* * *

OUR NEXT ISSUE

Our lead next month is an account of the recent visit which Mr. P. R. Sandars, head of Far East Department, paid to Peking, capital of communist China, as a member of a trade delegation. Mr. Sandars writes a delightful article, part descriptive, part factual, part an observation of how the new régime has changed the face of China.

Next we have a write-up of a Metals Division function of which Kynoch Works is justly proud—the annual Christmas party given to pensioners and attended this year by over 500 of them. We asked Norman Vigers to take the photographs, and he has written the text as well.

The colour feature is by Mr. Alan Findlay, who works in the Printing Shop of Ardeer Factory, Nobel Division. He writes about his hobby of cactus cultivation. There are colour illustrations of cacti in flower.

Finally, Miss Joan Brown of Distribution Department, Salt Division, describes her holiday (incidentally a holiday taken alone) in Majorca. This is a most vivid account of what was obviously an extremely happy fortnight, and the article is a very worthy winner of the Holiday Competition.

Donegal Holiday

By Claude Bigg (Northern Ireland Sales Office)

AN old friend of ours, wearied of the toil and rebuffs of a hard commercial world, had purchased a small hotel at Dunfanaghy. Thither we repaired early in July.

Our route beyond the customs lay along the fjord-like arm of Lough Swilly and then through slow-rising country, growing more rugged and rock-strewn until we came within sight of the Donegal highlands and the sand-fringed shores of Sheephaven Bay, where the quiet waters have fretted away at the shore to make a jigsaw of inlets, bays and coves. We left behind us a poem of place-names: Letterkenny, Cresslough, Kilmacrenan, Port-na-Blagh, while signposts pointed the way on to Falcarragh, Gortahork and Bloody Foreland. (The boys enjoyed this last, and made reference to it at every conceivable and many inconceivable opportunities.)

Donegal has a strange beauty and a grandeur all its own. Its coast is deeply indented in the ageless war it wages with the might of the Atlantic, and the sea has sent long fingers deep into the land here in the north at Sheephaven, Swilly, Mulroy and Ballyness, where the bays have wandered across the lower lands. From these bays the hills rise sharply, and when the days are grey and the light falls less kindly there is a note of grimness and foreboding in their shape. Between the folds of the hills there lie quiet lakes, remote, unruffled, mysterious, and, except for an occasional fisherman, the land around them is unpeopled.

The legend and the history of this area are timeless, and the tales of men who battled long ago for this rugged corner of Ireland are told as though they lived here yet, hidden deep in some mountain fastness or idling awhile in a forgotten cove.

We arrived at Dunfanaghy in the mid-afternoon, and friend George showed us round the Carrig-Rua Hotel, finishing up in the bar for cherry brandies on the house.

Journeying through Donegal we had decided that this county had a magical quality and would prove

itself to have character in abundance. We met the character that first night, and in abundance.

After the boys had gone to bed, Helen and I adjourned to the bar for a couple of quiet drinks and perhaps a yarn with some of the locals before bed, which was how we came to meet Charles. He was well made, in the middle forties, with a gleam in his eye and a glass in his hand.

"You'll have a drink!"

It is a command, not an invitation; and our order for a sherry and a lager somehow became transformed on delivery into two large brandies. Charles sits down between us.

"You're Irish, aren't you?" he asks my wife.

"Well—I'm Ulster," replied Helen.

"Same thing, same thing!" and Charles waves a large hand in a vague gesture. "Tell me now, are you married?"

"I am, certainly—this is my husband."

The inevitable mumble of introduction phrases does not occur as Charles looks at me in silence, solemnly, seriously, but shaking his head. He turns back to my wife.

"That's desperate, ma'am," says he. "You're not on honeymoon, are you?"

"Well, if I am," says Helen, who has quite a sense of humour, "then there are two young fellows in bed upstairs who should not be here."

Charles hits my wife a thud across the knee that is likely to bring back her fibrositis, throws back his head and lets out a roar of laughter that is pure glee. He subsides suddenly.

"How come you're married to this fellow, though?"

"I met him in London," explains Helen.

Charles turns to me; at last there is something about me he can understand.

"So you're a Londoner?"

Having been born in Hampshire, bred in Sussex, lived nine years in London and the past seventeen in Ireland, my claim to be a Londoner would not stand

much investigation, and I like to be exact about such things. His question, therefore, comes as one of the "have you ceased beating your wife?" type that a straight yes or no just does not fit.

"Well, not really; you see—"

My explanation is halted by Charles. "Then either your wife is a liar or you don't know where the hell you come from—begging your pardon, ma'am, for the 'hell'—and that's near as bad as not knowing where you're going; it might even be worse. I lived in London myself for a while; Pentonville—do you know it?"

"No, I lived the other side of the city; the only thing I know about Pentonville is that there's a prison there."

"Aye, that's right—I was in it."

I am tempted to let the conversation lapse but feel it would be discourteous, so I continue. "What for?"

"Six months."

"No, I mean why were you there?"

"Because your b—— Government—begging your pardon, ma'am, for the 'b——'—put me there. Och, it was a little matter of a dispute up in 'Derry, and there were some bombs being tossed around and one thing and another. Sure, it doesn't matter now, anyway. I'd sooner talk about your wife; I'm very fond of your wife. I'm not embarrassing you, am I?"

"Not in the least, Charles."

"How d'you know my name?" he glares.

"Well it was what George called you when he brought the drinks over, so I assume it's your name."

The explanation satisfies Charles who turns back to Helen. "Well, now, so you met him in London. Great city, London. Only one thing wrong with it—it's full of Englishmen, and boy! I hate Englishmen." He looks at me, finds the view distasteful, and goes on speaking to Helen.

"It's a great city, and I'm very pleased to hear you've been there; but, ma'am, you shouldn't have brought him back with you. I'm not embarrassing you, sir, am I?"

Of my wife he asks "What's his name?"

"Claude; Claude Hamilton Bigg."

"Oh, Saints preserve us!" breathes Charles. "Oh, I'm desperate sorry to hear that. That's shocking! Any man with a name like that needs brandy. Hey, George, bring brandy!"

He turns to Helen and adds "I'm not sure George shouldn't bring bandages too." Charles swivels his bulk round in the chair and reaches a slightly un-

steady hand towards my shoulder. "Don't take too much notice, boy," says he. "I was at the races this afternoon and won a bagful of shillings that's got to be drunk before the morrow." He raises a glass with one hand, makes vague passes in the air with the other, and reels off a couple of sentences in Gaelic. "You are now rechristened. Ma'am, henceforth you're married to Joe—that's him sitting here beside me."

The evening is now well advanced, and it has ceased to matter what drinks one ordered, what drinks one consumes. Occasionally Helen looks at me and murmurs "A nice quiet holiday in Donegal, peace, and plenty of sleep"; and we both chuckle. Charles is having a little difficulty with words of more than two syllables, but otherwise he is apparently sober; secretly I envy him his constitution. He left us a couple of times to speak with other people in the bar, and returned the second time with a girl named Hilda. Perhaps disappointed because he was the only bachelor in the bar, Charles had brought Hilda over to our table to announce that they were "legitimately affianced."

With many interruptions, considerable argument but nevertheless with some ceremony, a "deed of affiance" was drawn up on the back of a sixpenny postal order and duly witnessed. As this subsequently proved to be a document issued by the G.P.O. and not the Irish P.O., Charles reserved to himself the right to regard it as not binding. However, as he was prepared to regard himself as an affianced man for the rest of that night, then sure they might as well have champagne to celebrate the engagement.

At half-past two, through a labyrinth of legs—human and table—past tables littered with empty Guinness, lager, brandy and champagne bottles, Helen and I struck out for bed. In the lounge we met George's wife, who enquired were we not enjoying ourselves, seeing that we were going to bed with the fun still waging fast. We assured her that everything was grand—that perhaps when we got into training we might be able to stay to the end some other night.

Sunday dawned, but we did not see it—at least not until 10 a.m. Breakfast over, we decided to visit Horn Head. This hill rises six hundred feet straight out of the sea and guards the entrance to Sheephaven Bay. From its summit are splendid views of Rosapenna and the Rossguill peninsula and inland the peaks of Muckish and Errigal; out to the west lies Tory Island with its population of two hundred carrying on the customs and traditions of an island race apart, but



. . . Charles hits my wife a thud across the knee

hospitable enough to any visitors who are prepared to risk a rough passage and the possibilities of not landing or not leaving if the seas become rougher. Beyond that, nothing to the westward until America.

We came up the main street of Dunfanaghy, where it seemed the total population of 362 were all making their way to one or other of the three churches, and we turned right to where a broad track led up the hill. Half-way up, the track narrowed and offered a right and left fork which seemed equally narrow, equally rough and equally possible as a route to the summit.

While we were debating which one to take, a dog, two cows and a man came down one track, and we enquired from the man which path to take. He left the dog to take control of the cows, spat on the ground, and said "Either one; but me, I would take the left, for the one to the right leads to the cliff edge and then on to nowhere, and to go nowhere is as much use as a poultice on a wooden leg. But that path to the left, there; that leads right up to the top of the Horn, and then you can follow it to the round-topped hill over there, d'you see? They call that hill Crock Shea. Do you know what Crock Shea means?"

I confessed ignorance on behalf of all four of us.

"Well, if you don't know what it means, then you must be foreigners—up from Dublin or somewhere, no doubt." He paused, but after the previous night's session with Charles I was resolved not to divulge my name, antecedents, places of birth, upbringing, residence, nationality or whatever to whosoever, so he went on: "Well, Crock Shea means Hill of the Fairies. You believe in fairies, don't you?"

That was quite a question, though fortunately it was positively posed. Until that day I had never seriously contemplated whether I believed in fairies or not; but as I regarded him, black-haired and bushy-browed, with his clothes so patched that one hardly knew what was the original cloth, and his blue eyes fixed intently on me, I knew that there could be only one answer.

"I've never seen them, but I do not disbelieve," I said.

"There's few indeed have seen them, sir, but go you round by Crock Shea and chance is you may find a fairy fiddle under the stones."

"What are they like?", asked Anthony, the older boy.

"No longer than your thumb—leastways no longer than mine—and a bridge across it; and if you're lucky, maybe the bow still tucked into it. But you have to know where to look."

He and Anthony went into a discussion as to where such fiddles might be found, and the conversation would have been going yet, I think, had not Dennis (who is nine and a realist) suggested we should go to the man's cottage to see his collection of several fairy fiddles. But—what a pity!—he had to be moving on to see about the cows.

We went to Crock Shea later and looked beneath the bushes and turned over some of the stones, but we found no fairy fiddles; perhaps, though, that was our fault, for some stones we left unturned.

For the rest of the holiday we idled, we swam, we fished in desultory fashion, and later we met Bill Stewart; but that starts another story.



Motor-cycle Trials

Photo by C. Cobb (Wilton Works)